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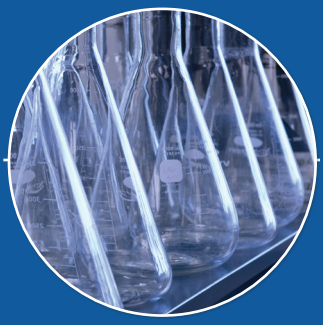
NSF/ANSI/3A 14159-3 - 2019

Hygiene Requirements for the Design of Mechanical Belt Conveyors Used in Meat and Poultry Processing



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3-A SSI is a voluntary consensus standards development organization dedicated to the protection of public health through development and promulgation of equipment standards applied to milk, milk products, and other comestibles. The tripartite 3-A SSI represents fabricators, users, and sanitarians.

This Standard is subject to revision.
Contact NSF to confirm this revision is current.

Users of this Standard may request clarifications and interpretations, or propose revisions by contacting:

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3-A Sanitary Standard
for Food Processing Equipment –

Hygiene Requirements for the Design of Mechanical Belt Conveyors Used in Meat and Poultry Processing

Standard Developer
NSF International

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Foreword[2]

The purpose of this Standard is to establish minimum public health and sanitation requirements for mechanical belt conveyors used in meat and poultry processing.

This edition of the Standard includes the following revisions:

Issue 7

This revision modified language regarding the use of the term “NOTE” in Section 5.

Issue 8

This revision updates the year on the IEEE/ASTM SI 10 normative reference.

This revision also includes an editorial update to the names of the Annexes within. The Annexes are being changed from alpha characters to numeric, preceded by a ‘Normative’ or ‘Informative’. The table below shows the previous name of the Annex with the corresponding new name of the Annex:

Previously known as:	Now known as:
Annex A	Normative Annex 1 (N-1)
Annex B	Informative Annex 1 (I-1)
Annex C	Informative Annex 2 (I-2)
Annex D	Informative Annex 3 (I-3)
Annex E	Informative Annex 4 (I-4)
Annex F	Informative Annex 5 (I-5)
Annex G	Informative Annex 6 (I-6)

NSF and 3-A SSI have collaborated to develop this American National Standard for food processing equipment. This Standard was developed by the NSF Joint Committee on Food Processing Equipment using the NSF consensus process, as accredited by the American National Standards Institute. The Joint Committee membership includes a balanced representation of equipment manufacturers, food processors and producers, as well as federal, state, and local public health regulators who have food protection responsibility. During the development of NSF/ANSI/3A 14159-1, it was determined by the Joint Committee that the sanitary design and construction requirements for mechanical belt conveyors should be included in a separate standard so as to not cause confusion with the requirements for general processing equipment.

Suggestions for improvement of this Standard are welcome. This Standard is maintained on a Continuous Maintenance schedule and can be opened for comment at any time. Comments should be sent to: Chair, Joint Committee on Food Processing Equipment at standards@nsf.org, or c/o NSF International, Standards Department, PO Box 130140, Ann Arbor, Michigan 48113-0140, USA.

[2] The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI’s requirements for an ANS. Therefore, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

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NSF, founded in 1944, is well known for the development of standards, product testing and certification services in the areas of public health, safety and protection of the environment. The NSF Mark is placed on millions of consumer, commercial and industrial products annually and is trusted by users, regulators, and manufacturers. Technical resources at NSF include physical and performance testing facilities and analytical chemistry and microbiology laboratories. NSF professionals include engineers, chemists, toxicologists, sanitarians, and computer scientists with extensive experience in public heath, food safety, water quality, and the environment. NSF certification programs are fully accredited by the American National Standards Institute (ANSI), the Dutch Council for Accreditation (RvA), and the Standards Council of Canada (SCC). NSF also provides management system registration services to ISO 9000 and ISO 14000 standards through its subsidiary NSF-International Strategic Registrations, Ltd.

3-A SSI

The objectives of 3-A SSI is to formulate standards and accepted practices for equipment and systems used to process milk, milk products and other foods. These standards are developed through the cooperative efforts of local, state, and federal sanitarians, equipment manufacturers, and equipment users thereby gaining acceptability by those involved in the sanitary aspects of the dairy and other food industries. The ultimate goal is to protect dairy and food products from contamination and to ensure that all product contact surfaces can be mechanically cleaned or can be dismantled easily for manual cleaning, and when necessary, dismantled for inspection.

3-A SSI consists of representation from the International Association of Food Protection (IAFP), the United States Public Health Service / United States Food and Drug Administration (US PHS/US FDA), the United States Department of Agriculture (USDA), the Food Processing Suppliers Association (FPSA), the International Dairy Foods Association (IDFA) and the European Hygienic Engineering and Design Group (EHEDG). The success of 3-A SSI is due to mutual cooperation and trust of manufacturers, users, and sanitarians in objectively meeting a need for specific hygienic standards and practices, which has resulted in the adoption of more than 85 voluntary Sanitary Standards and 3-A Accepted Practices. The value of this joint effort is evidenced in the effective application of these standards and practices within the dairy and food industries. 3-A SSI criteria are being used throughout North America and are gaining worldwide recognition through cooperative standards development with the International Organization for Standardization (ISO) and the International Dairy Federation (IDF).

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NSF/ANSI/3A Standard
for Food Processing Equipment –

Hygiene Requirements for the Design of Mechanical Belt Conveyors Used in Meat and Poultry Processing

1 General

1.1 Purpose

This NSF/ANSI/3A Standard establishes minimum food protection and sanitation requirements for the materials, design, fabrication, construction, and performance of meat and poultry processing equipment. This Standard does not contain operator safety requirements.

1.2 Scope

This NSF/ANSI/3A Standard applies to exposed product mechanical belt conveyors, either singularly or as a component of equipment, intended for use in the slaughter, processing, and packaging of meat and poultry products.

1.3 Measurement

Decimal and metric (SI) conversions provided parenthetically shall be considered equivalent. Metric conversions have been made according to IEEE/ASTM SI 10.

2 Normative references

The following documents contain provisions that, through reference, constitute provisions of this NSF/ANSI/3A Standard. At the time of publication, the editions indicated were valid. All referenced documents are subject to revision, and parties are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

3-A Accepted Practice, No. 604-05 2004, *Supplying Air Under Pressure in Contact with Milk, Milk Products, and Product Contact Surfaces*[3]

ANSI/ASME B46.1 – 2009, *Surface Texture (Surface Roughness, Waviness, and Lay)*[4]

Code of Federal Regulations, Title 21, (21 CFR) Parts 170-199, *Food and Drugs*[5]

[3] 3-A SSI, International Association of Food Industry Suppliers. 1451 Dolley Madison Boulevard, McLean, VA 22101-3850. <www.3-a.org>

[4] American Society of Mechanical Engineers (ASME). Three Park Avenue, New York, NY 10016-5990. <www.asme.org>

[5] US Government Printing Office. Washington, DC 20402. <www.gpo.gov>